IN THE SPECIFICATION

Please delete paragraph [0041] and replace the following paragraph therefor:

[0041] Figure 7 is a flow diagram of an exemplary method 700 for generating a signal that is indicative of a pressure oscillation in a chamber. The method includes sensing 702 a pressure within the chamber. In the exemplary embodiment, a sensor that includes a diaphragm that is sensitive to the pressure within the chamber, for example, but, not limited to a gas turbine engine combustor, and an eddy current transducer coupled to a digital eddy current system. The eddy current transducer emits RF waves from a face proximate the diaphragm such that the RF waves interact with the diaphragm to create eddy currents within the diaphragm. The eddy currents, in turn, influence the complex impedance of the transducer in relation to the gap distance between the transducer emitting face and the diaphragm. As pressure fluctuates within the combustor due to normal combustion and/or combustion instability, the output signal from the transducer varies proportionally generating 704 a signal relative to the sensed pressure. The output signal is sampled and digitized 706 by a sampling circuit and the digitized signal is transformed 708 from the time domain to the frequency domain using a FFT analyzer to generate an energy spectrum. The energy spectrum is analyzed 710 to determine an energy spike indicative of a substantially non-random component of the digitized signal. A significant portion of the signal may be due to circuit and/or component generated noise relative to the information containing portion of the signal. The noise component of the signal may be spread substantially evenly through a plurality of frequencies. A repetitive signal, such as a signal generated by humming in the combustor is generally substantially centered at one or more characteristic frequencies. A fast Fourier transform of the signal may display the energy contained within each frequency level of the signal for a plurality of frequencies. The FFT has the effect of accentuating the non-random components of the signal relative to the noise or random components of the signal, such that, in the exemplary embodiment, small signal strengths due to humming and riding on a larger noisy static pressure signal may be processed to yield significant information regarding the operation of the combustor.